

D1ACM2303

(2 Pages)

Name.....

Reg.No.....

**FIRST SEMESTER M.Com DEGREE EXAMINATION, NOVEMBER 2023  
(Regular/Improvement/Supplementary)**

**COMMERCE**

**FMCM1C03- QUANTITATIVE TECHNIQUES FOR BUSINESS DECISIONS**

**Time: 3 Hours**

**Maximum Weightage: 30**

**Part A: Answer any *four* questions. Each carries *two* weightage.**

1. What are non-parametric tests?
2. Elaborate on binomial distribution.
3. What is probable error?
4. Distinguish between point estimate and interval estimate.
5. What is SPSS?
6. Define critical region.
7. What is meant by analysis of variance?

**(4 × 2 = 8 weightage)**

**Part B: Answer any *four* questions. Each carries *three* weightage.**

8. The standard deviation of two samples of sizes 10 and 14 from two normal populations are 3.5 and 3.0. Examine whether the standard deviations of the populations are equal.
9. A random sample of 64 boys gave a mean height of 50 inches with a standard deviation of 6 inches. Test the hypothesis that the mean height in the population is 53 inches.
10. What are estimators and parameters? Write a note on the desirable properties of a good estimator.
11. Treatment A was applied on 400 items and 80 were found to have gained in their tensile strength. Treatment B was applied on 400 items and 20 were found to have gained in the said strength. Determine *chi-square* and state whether the treatment B is superior to the treatment A or not.
12. What is hypothesis? How is it framed?
13. From the following data, correct the value of co-efficient of rank correlation which has been calculated at 0.65.  
N=8, Wrong D=10, Correct D=3.

**(P.T.O.)**

14. The following table gives the number of units produced per day by two workers A and B.

A	40	30	38	41	38	35	-	-
B	39	38	41	33	32	39	40	34

Should these results be accepted as evidence that two workers are equally stable? Use F test.

**(4 × 3 = 12 weightage)**

**Part C: Answer any two questions. Each carries five weightage.**

15. The data given below relate to the sales (in '000 Rs.) effected by 4 salesmen in the three cities.

District	Salesman			
	P	Q	R	S
Jaipur	70	40	50	80
Shimla	80	80	60	100
Patna	30	30	70	30

Carry out an analysis of variance and interpret the results.

16. i) Explain the procedure of testing the given population mean. (ii) What are one-tailed and two-tailed tests of hypothesis?

17. Calculate regression lines from the following data and estimate x when y is 26 and y when x is 35.

X	10	12	13	17	18	20	24	30
Y	5	6	7	9	13	15	20	21

18. Define quantitative techniques. Discuss its scope and limitations.

**(2 × 5 = 10 weightage)**